

REMARKS

This application has been carefully reviewed in light of the Office Action dated December 11, 2001 (Paper No. 12). Claims 2, 5 to 10 and 19 to 21 are in the application, of which Claims 2, 5, 8 and 21 are independent. Reconsideration and further examination are respectfully requested.

Applicants thank the Examiner for his indication of allowable subject matter, and in particular for his indication that Claims 5 to 7 have been allowed. Although changes have been made to Claims 5 to 7, it is not believed that those changes affect allowability.

Formal objections were lodged against Claim 2 and against the drawings. The objection to Claim 2 has been attended to by amendment. With respect to the drawings, since Claim 3 has been cancelled, no change has been made to the drawings. It should be noted that the cancellation of Claim 3 was made without conceding the correctness of the drawing objection.

Claims 3, 4 and 10 were rejected under 35 U.S.C. § 112, second paragraph. Claims 3 and 4 have been cancelled, and Claim 10 has been amended. Withdrawal of the § 112 rejection is respectfully requested.

Claims 1, 2, 8 and 10/(2, 8) were rejected under 35 U.S.C. § 102(b) over European 756,935 (Ono). Reconsideration and withdrawal of this rejection are respectfully requested.

The present invention concerns an ink absorber having surfaces formed by thermoforming. Although thermoformed ink absorbents are widely used, particularly in circumstances where an ink tank has a complex interior shape, it has been found that the surfaces of the ink absorber become less resilient due to thermoforming, and the ink absorber consequently tends to correspond less to the inner surface of the ink tank. Under this situation, there is a possibility that an ink flow path is communicated with air and an air layer might exist between a surface of the thermoformed ink absorber and an inner surface of the tank. The existence of such an ink flow path might adversely affect ink supply performance.

Moreover, because thermoformed surfaces tend to be more stiff, mounting of an ink jet head for supply of ink tends to require a greater mounting force, which adversely affects a mounting operation.

The invention addresses the foregoing situations and employs an arrangement in that a thermoformed ink absorber is cut to make a cut face so as to expose a soft face. The soft face makes a tighter adhesion with respect to an inner surface of an ink tank, and the mounting force of an ink jet head tends to be lower.

In contrast, Ono describes an ink absorber in which the entire surface thereof is thermoformed under pressure. Ono does not describe a cut face of an ink absorber, much less a cut face faced to a supply port (Claims 2 and 21) or two cut faces opposite to each other (Claim 8).

The Office Action refers to Ono's Figures 2 and 3A as allegedly showing an ink absorber with cut faces. These figures do not show ink absorbents, however; rather,

these figures illustrate part of the process of forming an ink absorbent. As shown in Figures 3A through 3C, Ono inserts fiber body 45 into a mold formed by mold halves 51 and 52 (Figure 3A), thermally molds the fiber body (Figure 3B), and removes the fiber body as ink absorber 26 (Figure 3C) which is thermoformed on all surfaces thereof. Ink absorbent 26 is not cut to form a cut face. Thus, Ono does not show an ink absorbent with thermoformed surfaces plus a cut face.

It is therefore respectfully submitted that the claims herein are fully in condition for allowance.

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. § 1.56, Applicants respectfully direct the Examiner's attention to the documents listed below and on the enclosed Form PTO-1449. A copy of each document so listed is enclosed.

Japan 6-328710  
Japan 7-47688  
Japan 7-125233  
Japan 9-183236  
Japan 10-323990

These documents were cited during prosecution of Japanese patent applications corresponding to the above U.S. application. Copies of two Japanese Office Actions are enclosed.

This application has received an Office Action on the merits but has not yet received either a final action or a notice of allowance. Accordingly, this Information Disclosure Statement is filed under 37 C.F.R. § 1.97(c) and is accompanied by the \$180.00 fee specified at 37 C.F.R. § 1.17(p). Consideration of the art cited herein is accordingly deemed proper, and such action is respectfully requested.

The concise explanation of relevance for the non-English documents cited above is provided in the Japanese Office Actions and by the English language abstracts included with the cited art.

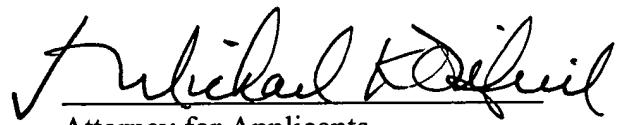
U.S. Patent 5,509,140 is believed to be an English language counterpart to Japan 6-328710, and European 756,935 is believed to be an English language counterpart to Japan 9-183236. Both of these English language references are already of record in the subject application.

The Examiner is urged to study this information in its entirety and to form an independent determination of the materiality of the information to the claimed invention. Additionally, the Examiner is requested to indicate that this information has been considered by initialling the appropriate portion of Form PTO-1449.

CONCLUSION

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

  
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U.S. Application No. 09/543,331  
Atty. Docket No.: 03500.014393

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Cancelled)
2. (Twice Amended) An ink absorbent contained in [the] a housing of an ink tank for storing ink in the interior thereof and provided with a supply port for leading out ink to the outside, and an atmospheric communication port [to be communicated] for communication with the air outside, said supply port being adapted to receive an ink supply portion of an ink jet head into an inside of said housing, said ink absorbent being formed by fiber material having a surface formed at least by thermoforming, wherein

the face of said ink absorbent facing [sais] said supply port on the inner face of said ink tank is a cut face.
3. (Cancelled)
4. (Cancelled)
5. (Twice Amended) An ink absorbent contained in [the] a housing of an ink for storing ink in the interior thereof and provided with a supply port for leading out ink to the outside, and an atmospheric communication port [to be communicated] for communication with

the air outside, said supply port being adapted to receive an ink supply portion of an ink jet head  
into an inside of said housing, said ink absorbent being formed by fiber material having a surface  
formed at least by thermoforming, wherein

the face of said ink absorbent facing the plane having the largest area on the inner  
face of said ink tank is a cut face thereof.

6. (Unamended From Previous Version) An ink absorbent according to Claim 5,  
wherein said ink tank comprises a negative pressure generating member installation changer; a  
liquid storage chamber communicated with said negative pressure generating member  
installation chamber through a communication portion to store ink to be supplied to said negative  
pressure generating member installation chamber substantially closed with the exception of said  
communication portion; and a partition wall member having said communication portion,  
partitioning said negative pressure generating member installation chamber and said liquid  
storage chamber.

7. (Unamended From Previous Version) An ink absorbent according to Claim 6,  
wherein the face of said ink absorbent facing said partition wall member is the cut face thereof.

8. (Twice Amended) An ink absorbent contained in [the] a housing of an ink  
tank for storing ink in the interior thereof and provided with a supply port for leading out ink to

the outside, and an atmospheric communication port [to be communicated] for communication with the air outside, said ink absorbent being formed by fiber material having a surface formed at least by thermoforming, wherein

two faces of said ink absorbent opposite to each other are cut faces.

9. (Unamended From Previous Version) An ink absorbent according to Claim 8, wherein said cut faces are parallel in the fiber direction.

10. (Amended) An ink tank containing an ink absorbent according to any one of Claims 2, [3 or 5-9] 5 or 8, in the interior thereof.

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

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